

(12)特許協力条約に基づいて公開された国際出願

(19) 世界知的所有権機関
国際事務局(43) 国際公開日
2003年12月31日 (31.12.2003)

PCT

(10) 国際公開番号
WO 2004/000937 A1

- (51) 国際特許分類: C08L 67/00, C08K 7/24 (74) 代理人: 秋元 輝雄 (AKIMOTO, Teruo); 〒107-0062 東京都港区南青山一丁目1番1号 Tokyo (JP).
- (21) 国際出願番号: PCT/JP2003/007828
- (22) 国際出願日: 2003年6月19日 (19.06.2003)
- (25) 国際出願の言語: 日本語
- (26) 国際公開の言語: 日本語
- (30) 優先権データ:
特願JP2002-185354
2002年6月25日 (25.06.2002) JP
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- (81) 指定国 (国内): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) 指定国 (広域): ARIPO 特許 (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), ユーラシア特許 (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), ヨーロッパ特許 (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI 特許 (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- 添付公開書類:
— 国際調査報告書
- 2文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。

(54) Title: MOLDING OF WHOLLY AROMATIC LIQUID CRYSTAL POLYESTER RESIN

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(57) **Abstract:** A molding having dielectric characteristics not having been attained by conventional liquid crystal polyester resin compositions while maintaining the heat resistance, such as solder reflow resistance, of liquid crystal polyesters, which finds application in information telecommunications equipment employed in high-frequency band regions, such as microwaves and millimeter waves. In particular, a molding of wholly aromatic liquid crystal polyester resin composition of 3.0 or less dielectric constant and 0.04 or less dielectric loss tangent obtained by injection molding of a composition composed of 90 to 45 wt.% of wholly aromatic liquid crystal polyester 320°C or higher melting point, 10 to 40 wt.% of inorganic spherical hollow material of 2 or less aspect ratio and 0 to 15 wt.% of inorganic filler of 4 or higher aspect ratio (the whole constituting 100 wt.%). This molding has dielectric characteristics suitable for information telecommunications equipment, and is excellent in solder heat resistance, moldability and dimensional stability, so that it is advantageous as a substrate material for use in information telecommunications equipment such as portable telephone and as a fixing or holding member of transmitter-receivers.

(57) 要約: 液晶ポリエステルの耐ハンダリフロー等の耐熱性を保持しつつ、従来の液晶ポリエステル樹脂組成物ではなし得なかった誘電特性を有し、マイクロ波、ミリ波などの高周波帯域で用いられる情報通信機器に使用される成形体を提供することを目的とする。融点320°C以上の全芳香族液晶ポリエステル90~45重量%、アスペクト比が2以下の無機球状中空体10~40重量%、アスペクト比が4以上の無機充填材0~15重量% (全体で100重量%) を配合した組成物を射出成形して得られる、比誘電率が3.0以下、誘電正接が0.04以下の全芳香族液晶ポリエステル樹脂組成物成形体。本発明の成形体は情報通信機器に適した誘電特性を有しており、かつハンダ耐熱性、成型加工性および寸法安定性に優れているので、携帯電話等の情報通信機器の基板材料、送受信素子の固定あるいは保持部材として優れている。

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Abstract

An object is to provide a molded product, which has dielectric properties that the conventional liquid crystal polyester resin has not realized, and simultaneously
5 which keeps a heat resistance such as solder reflow of a liquid crystal polyester, and which is used in information and telecommunications equipment employed in high frequency band regions such as microwaves and millimeter waves. A molded product of a wholly aromatic liquid crystal polyester resin composition which has a dielectric constant of 3.0 or less and a dielectric dissipation factor of 0.04 or less and
10 which is obtained by an injection molding of a composition comprising 90 to 45 percent by weight of the wholly aromatic liquid crystal polyester having a melting point of 320°C or more, 10 to 40 percent by weight of an inorganic spherical hollow material having an aspect ratio of 2 or less, and 0 to 15 percent by weight (100 percent by weight in total) of an inorganic filler having an aspect ratio of 4 or more.
15 The molded product of the present invention has dielectric properties suitable for information and telecommunications equipment, and is excellent in solder heat resistance, processability, and dimensional stability so that the molded product is advantageous as a substrate material for use in information and telecommunications equipment such as a cellular mobile phone and as a fixing or a holding member of a
20 transmitter-receiver element.